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TAGS: TBIO KSCA SENV TBIO TNGD BR
SUBJECT: STAS TEAM VISIT - U.S.-BRAZIL BIOINFORMATICS CONFERENCE AND S&T SURVEY

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- 11. SUMMARY: Science and Technology Adviser to the Secretary of State (STAS) Dr. George Atkinson led a team of scientists and engineers to Rio, Sao Paulo, Campinas and Petropolis, Brazil, November 10-17, 2006, to co-host a regional Global Dialogue on Emerging Science & Technology (GDEST) Conference on the topic of "Bioinformatics" and to conduct a brief survey of major Brazilian S&T organizations. The conference, cosponsored by Brazil's Ministry of Science and Technology, attracted over 100 scientists and graduate students from six countries. The STAS team surveyed Brazilian science, technology (S&T) and engineering research and education capabilities through visits to a cross section of universities and other S&T organizations, as arranged by post. Through the GDEST and science and technology survey, the STAS team affirmed Brazilian Southern Cone leadership in bioinformatics and other science and engineering fields. During the trip the Adviser also introduced a proposal for a new modality of collaboration with U.S. universities "Global Science Partnerships for the 21st Century" (GSP21). END SUMMARY.
- 12. STAS Atkinson's delegation included Deputy S&T Adviser Andrew Reynolds, WHA/EPSC Jefferson Science Fellow Dr. Kim Boyer, DOS Geographer Dr. Lee Schwartz, former Jefferson Science Fellow Dr. Ed Samulski, AAAS Fellow Dr. Christina McCain (STAS Office), cancer researcher Nathan Singh (University of Pennsylvania), former State Department AAAS Fellow Dr. Matthew Schmolesky and Dr. Cung Vu from the DOD's Defense Warning Office.

GLOBAL DIALOGUE ON EMERGING SCIENCE & TECHNOLOGY (GDEST) ON ${\tt BIOINFORMATICS}_{_}$

- 13. The GDEST conference and agenda was conceived by the STAS and organized in collaboration with the U.S. Brazil Mission team (including the ESTH office in Embassy Brasilia, Consulate Rio and Consulate Sao Paulo) and Brazil's Ministry for Science and Technology. Costs were shared through financial support from STAS, the U.S. Office of Naval Research, the U.S. Air Force Office of Scientific Research and the Brazilian National Laboratory for Scientific Computation in Petropolis, part of the Government of Brazil's Ministry of Science and Technology (MCT).
- 14. This conference was one of a series organized and executed worldwide by Dr. Atkinson and the STAS office during 2005-2006, with

the support of the National Academy of Sciences. The previous GDESTs consisted of bilateral scientific dialogues designed to contribute to global security, meeting human needs, and the advancement of knowledge by facilitating interactions among leading U.S. scientists and their foreign counterparts and peers. In addition, GDESTS place particular emphasis on bringing young investigators (graduate, doctoral-level) into the dialogues.

15. The GDEST on Bioinformatics, held at the Brazilian National Laboratory for Scientific Computation (LNCC) at its headquarters in Petropolis November 12-15, featured a regional approach whereby scientists and students from Brazil, Chile, Paraguay, Uruguay and Argentina participated. Twelve bioinformatics experts from these countries and twelve American counterparts assembled with over 75 South American doctoral students to present their research on a diverse array of topics in the field of bioinformatics. The meeting facilitated not only bilateral dialogues between Brazil and the U.S., but forged regional collaborations and partnerships in the field that had not previously been established. According to STAS Atkinson, this GDEST was held in Brazil in recognition of it's rapidly advancing capabilities in science and bioinformatics leadership in region and the world. It also provided all participants with an opportunity to become more familiar with the research priorities, potential colleagues, and facilities in the United States. All participants praised the event for the new networks that it fostered within the Southern Cone and between the Cone and the U.S. Formal proceedings from the GDEST are forthcoming.

S&T TEAM SURVEY - RIO DE JANEIRO

 $\underline{\ }$ 6. The STAS team conducted their survey of general science and technology and engineering capabilities in Brazil through post arranged visits at prominent Brazilian institutions. In Rio de

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Janeiro, the STAS team visited the Federal University of Rio de Janeiro's School of Engineering and the Engineering School at the Pontificia Universidade Catolica.

17. U.S. Consulate Rio also arranged for the STAS team to visit the Oswaldo Cruz Institution, FIOCRUZ, for an overview of the research, education, production, and public health projects carried out by the Institute. FIOCRUZ is considered the premier health research institute in Brazil and has long had close relations with the U.S. Mission, the U.S. National Institutes of Health and the U.S. Centers for Disease Control.

S&T TEAM SURVEY - SAO PAULO & CAMPINAS

- 18. In Sao Paulo and Campinas, Brazil, U.S. Consulate Sao Paulo arranged for the STAS team to visit the Brazilian Synchrotron Light Laboratory, as well as Brazil's National Agricultural Research Corporation's (EMBRAPA) section on Agricultural Informatics, both located in Campinas. Dr. Atkinson presented a talk on Globalization of Science & Technology at the University of Sao Paulo, hosted by USP's Institute of Mathematics and Statistics. The entire delegation also toured the Ludwig Institute for Cancer Research and associated cancer research hospital (Hospital do Cancer).
- 19. Engineers from the U.S. team visited the Pan American Federation of Engineering Societies (UPADI) where they were told that Sao Paulo has always been the center of engineering excellence in Brazil. The Federation hosts said Brazil is at a crossroads today, facing two major engineering crises: (1) long-delayed repair and/or construction of new national infrastructure for watershed management, power, transport, and other major areas of need, and (2) insufficient numbers of qualified engineers being educated and (paradoxically) a lack of engineering career opportunities for those who do graduate with engineering degrees. There are pressing social needs poverty, health, basic services combined with the political populism of Brazil and much of Latin America that dominate decision-making for short-term results. After graduation, many engineers go to work in the banking and finance fields where their mathematical skills can prove highly profitable. These trained engineers are then lost forever to work productively in their

disciplines. To address these issues, the Brazilian engineering community constantly advocates reform and increased funding for education and research. Chronic lack of investment in material and engineering science research is hampering innovation in Brazilian applied technology and products, as well as stifling the creation of S&T and engineering jobs in the greater workforce.

- 110. On a brighter note, and with UPADI support, the Polytech Engineering faculty at the University of Sao Paulo is launching "Engineer 2015," a new initiative to organize curricula and research programs to better prepare Brazilian engineers for the global environment where sustainable economic development of natural resources is increasingly at a premium. As such, Engineer 2015 is a direct complement to, and will reinforce the objectives of, the OAS Engineering for the Americas initiative organized and launched by the U.S. in 2005.
- 111. The STAS team is preparing a report on the science and technology survey of Brazil that will provide additional detail on the visits, policies of and interactions with Brazil's science community.
- 112. EMBASSY COMMENT: The U.S. Mission was honored that Dr. Atkinson and his team chose Brazil for one of their Global Dialogue on Emerging Science & Technology Conferences. Their visit created an excellent foundation on which to expand bilateral science and technology collaborations. The Brazilian Ministry of Science and Technology (MCT) was extremely pleased to act as cosponsor for the regional conference which attracted over 100 scientists and grad students from Argentina, Uruguay, Paraguay, Chile, the United States and Brazil.
- ¶13. In a meeting with Dr. Atkinson in Rio, Ambassador Sobel expressed his interest in using science and technology as a vehicle to support the Brazilian economy and to enhance U.S.- Brazil relationships. Ambassador Sobel also expressed his strong support for the GSP21 initiative and advocated strongly for Brazil to be given a priority if such an initiative was forthcoming in South

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America.

114. STAS and U.S. Embassy Brasilia would like to acknowledge with gratitude the financial support from the U.S. Office of Naval Research and the U.S. Air Force Office of Scientific Research. This pooling of agency resources demonstrates exemplary interagency cooperation to serve common collaborative objectives in the region. END COMMENT.

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